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Factsheet

CURRANTS AND GOOSEBERRIES

(Revision of Factsheet "Currants and Gooseberries," January 1988)

Kevin Schooley, Plant Industry Branch, Kemptville
Adam Dale, Horticultural Research Institute of Ontario, Simcoe

Currants and gooseberries are a valuable addition to home gardens and could be grown more extensively on a commercial basis. The plants are hardy enough for most areas of Ontario and can be grown in most garden soils.

Black currants are prized for their distinctive flavor in juice, jam, jelly, pies and other desserts. They are also rich in Vitamin C. Red currants are used mainly for jelly or jam. White currants are not as popular as black and red currants. Gooseberries are eaten fresh or made into jam, pies and other desserts. Both currants and gooseberries can be frozen easily and kept for later use.

SITE

A wide range of soils can be used. However, plants grow best in a cool, moist but well-drained, rich clay loam. On sandy soils, pay close attention to mulching and watering.

Plants will tolerate partial shade, but a sunny site with good movement of air gives higher yields. Powdery mildew and frost injury to blossoms can be problems in sites with poor air movement.

Currant and gooseberry plants are hosts for white pine blister rust (see under "Diseases"). Do not grow these crops (except Consort black currant) near any valuable five-needle pines.

SOIL PREPARATION

Plantings should remain productive for at least 8 to 10 years, so prepare the soil carefully before planting.

Weeds Eradicate all perennial weeds such as quackgrass, bindweed and Canada thistle in the year prior to planting. Herbicides may be necessary in addition to cultivation. Consult OMAF Publication 75, *Guide to Weed Control*, for current herbicide recommendations. Do not permit weeds to go to seed.

Organic Matter The soil should have a rich supply of organic matter to promote good drainage, aeration and moisture retention. Apply 45 t/ha or 20 L/m^2 (5 bu/100 ft^2) of well-rotted manure in late summer or fall before planting. Work it thoroughly into the soil. Manure that is not well-rotted should be applied the previous fall to allow time for weed seeds to germinate so they may be destroyed.

Other organic materials such as hay or straw at 15 t/ha may be used instead of manure but such materials should be well-decomposed by planting time. When incorporating the hay or straw the spring before planting, apply 55 kg/ha of nitrogen or 15 grams/m^2 of ammonium nitrate to aid decomposition.

In addition, for commercial plantings, grow a well-fertilized green-manure crop the year before planting.

Fertilizers Apply fertilizer and adjust soil pH according to soil tests. With spring planting, work the fertilizer into the soil several days before planting. In the absence of a soil test, 500-750 kg/ha (50-75 g/m^2) of 10-10-10 or equivalent is a general recommendation. If fall planting, do not apply fertilizer until early spring.

PLANTING

Time Early spring planting is preferred over fall planting.

Plants Use strong, well-rooted, dormant, one-year-plants. Two-year-old plants also may be used but are more expensive. Normally it is more satisfactory to purchase plants from a nursery. However, plants can be propagated as outlined under "Propagation".

Obtain plants as close to planting time as possible. If necessary, plants can be stored for several days by putting them in a plastic bag in a refrigerator, cold storage, or other cool place. If roots are very dry they can be sprinkled with water before putting them in the plastic bag. Do not let roots sit in water or they may die. If plants must be kept longer than about two weeks before they can be planted, dig a trench in well-drained soil, spread out the plants, set them in the trench, and cover the roots with soil. Water the soil if it is dry.

Planting Distances Plant gooseberries and red currants 1.0 to 1.25 m (3 to 4 ft.) apart in rows. Black currants are more vigorous and should be spaced about 1.25 to 1.5 m (4 to 5 ft) apart. Rows can be as close as 2 m (6.5 ft) apart, but 3 to 3.5 m (10 to 12 ft) is preferable for commercial plantings.

Setting Plants Set the plants slightly deeper than they were growing in the nursery (note the soil mark on the plant). Spread out the roots and cover them with soil. Firm the soil around the roots, being careful not to break off young shoots. For commercial plantings, use a transplanting machine or plow furrows about 15 cm (6 inches) deep and set the plants in these furrows. Do not let the roots dry out during planting. Water after planting if the soil is dry. Prune branches to a length of 10 to 15 cm (4 to 6 inches) at planting time. This stimulates new growth. With fall planting, this pruning should be delayed until spring. Also, with fall planting, mulch around the plants to protect the roots.

CARE OF PLANTINGS

Blossom Removal Remove any blossoms which appear the year the plants are set. This helps plants become well established and make good growth.

Weed Control, Mulching Control weeds by shallow

hoeing and cultivating, or by mulching with hay, straw, sawdust, etc. Mulching is recommended for home gardens.

The mulch should be 5 to 10 cm (2 to 4 inches) deep, and additional applications will be needed to maintain this depth. In commercial plantings, the herbicide paraquat (Gramoxone) is useful for killing any weeds growing around the bushes. Follow the manufacturer's directions.

Fertilizers Fertilize plants each spring according to soil test results. As a guideline for home gardens, apply 175 to 225 g of 10-10-10 per mature bush (in the absence of a soil test). Use fertilizer made with potassium sulfate rather than with potassium chloride (muriate of potash). Fertilizer should be spread in a 30 cm band from the base of the plant. If plants are not mulched, apply manure annually in spring at the rate of 20 to 40 L (1/2 to 1 bushel) per plant, under the branches. In commercial plantings, sow a cover crop (Italian rye grass, spring wheat or oats, buckwheat etc) between rows from mid-August to September. Work the cover crop into the soil as soon as possible in the spring.

Sod Culture A permanent sod, such as creeping red fescue seeded at 20 kg/ha, may be grown between the rows. The sod eliminates the need for cultivation and cover crops. Sod makes a clean walking area for hand picking and improves driving conditions for mechanical harvesting. Keep the sod mowed closely until after harvest; let the sod grow in late summer. Irrigation is necessary in sod plantings.

Irrigation Adequate soil moisture is important for good plant growth, high yields, and large size of berries. Plants need about 25mm of water each week from bloom time to the end of harvest. If rain does not provide this water, then watering is advised. Plants should also be watered during prolonged dry periods after harvest until late August or early September. However, do not stimulate plant growth in late fall as hardening of the plants is necessary to prevent winter injury. In watering, add enough water to moisten the soil to a depth of 15 to 20 cm (6 to 8 inches) and then let the soil dry out somewhat before watering again. Be careful not to water excessively or roots will be injured.

Trickle irrigation may be useful for currants and gooseberries. The system slowly adds small amounts of water each day directly to the soil around the base of each plant. Various types of equipment are available. For more information, see Factsheet *Trickle Irrigation for Fruit Crops*, Agdex 206/564. Trickle irrigation does not provide frost protection; for frost protection, a sprinkler irrigation system is necessary.

Pruning Prune when the plants are dormant in late winter or early spring.

Black currants produce the best fruit on one-year-old wood. Strong one-year-old shoots, and two- or three-year-old shoots which have an abundance of strong one-year-old wood, are the most productive. Keep a total of 10 to 12 shoots per mature bush, with about half being one-year-old shoots (Figures 1a and 1b). A few more shoots may be kept if plant vigor is very good. Remove all shoots which are more than 3 years old. Make pruning cuts close to the ground.

Red currants and gooseberries produce most of their fruit on spurs that are located on two- and three-year-old wood. After pruning, a healthy bush should have 3 to 4 shoots of each one-, two-, and three-year-old shoots (a total of 9 to 12 shoots). Remove all shoots older than three years.

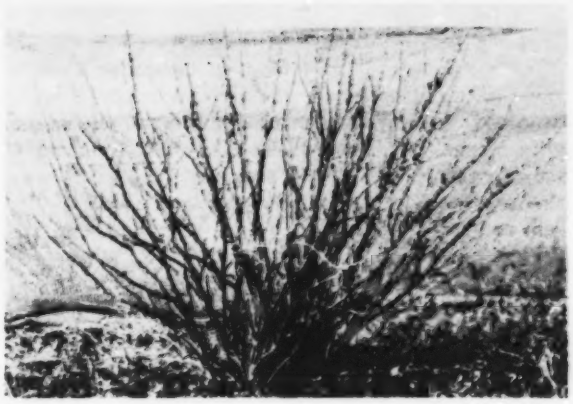

Figure 1a. A mature black currant bush before pruning.

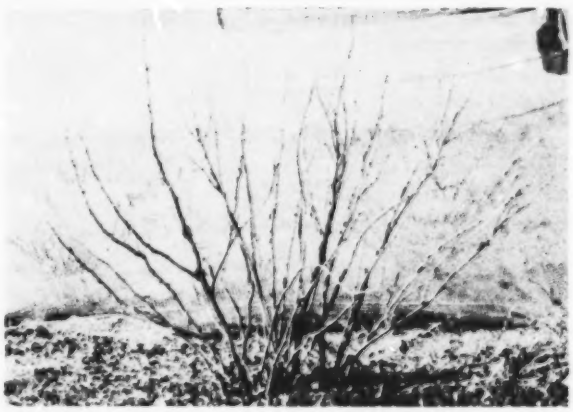

Figure 1b. The same bush after pruning. This bush has a good quantity of one-year old wood which will bear the fruit crop. Weak one-year-old shoots, and two- or three-year-old shoots having little one-year-old wood, have been removed.

Remove branches hanging close to the ground if berries are to be harvested mechanically. Also, for control of diseases and insects, remove and destroy any diseased tips of branches and branches which are late leafing out, dying, or sickly.

Frost Injury to Blossoms Currants and gooseberries bloom early in the spring. Severe frosts can injure blossoms and young developing berries. Frosts cause less problems in sites with good air drainage. Plantings under sod culture are likely to be more susceptible to frosts than those with cultivated soil.

In small plantings, cloth or paper covers can be put over plants for frost protection. Plastic usually gives little or no protection. In larger plantings, sprinkler irrigation is effective. Special nozzles which deliver about 2.5 mm of water per hour are used. The conversion of water to ice on the plants releases heat which protects blossoms and berries. Start applying water over the plants when the temperature is low enough that the water freezes (about -1°C). Irrigation should continue until the film of water covering the blossoms and berries would not freeze if irrigation stopped. Trickle irrigation is not useful for frost protection.

Pollination Currant and gooseberry varieties are self-fruitful and do not need pollen from another variety to produce good crops. In large plantings, however, it is

advisable to place honeybees in the planting to ensure adequate pollination.

Harvesting The berries on a currant bush ripen over a 2-week period. However, once a berry ripens it can usually be left on the bush a week or more without dropping or becoming over-mature. Therefore, most of the berries on a bush can be harvested in one or two pickings. With more frequent picking, there is a tendency to pick berries which are not fully ripened.

Black currants are usually picked as individual berries. With red currants, whole clusters are picked and berries are stripped from the stems later. For making juice or jelly, the berries may be crushed without removing them from the fruit stems, since the product is strained.

Gooseberries are harvested as individual berries. Some people harvest the berries when they have nearly reached full size but before they are ripe. They prefer these immature berries for jams and pies. Other people prefer fully mature berries. If desired, canvas or other material can be spread under the bush and the gooseberries knocked off onto it.

Mechanical shaking devices are now available for harvesting currants and gooseberries. Their use saves considerable labor in plantings large enough to justify their purchase. These shakers do a good job on black currants. Red currants are damaged quite extensively and harvested berries must be used immediately. Gooseberries can be shaken from the bushes fairly easily, but bushes must be pruned so a frame can be put under the branches to collect the berries. In spiny varieties, the spines may puncture some of the berries.

YIELDS

Plants should not be permitted to bear fruit the year they are planted. In the second year, a light crop can be harvested; and, by the third year, plants usually bear full crops. A yield of 7 L (6 quarts) per mature bush is considered good. However, yields of black currants are often only about half of this amount. Plants should remain productive for at least 8 to 10 years.

VARIETIES

Black Currants

Ben Nevis Mid-season productive. Crops consistently producing very large firm berries. Plants are of medium vigor with a spreading habit. Plants are initially resistant to powdery mildew but become susceptible after a few years. Resistant to white pine blister rust. Good for mechanical harvesting.

Topsy Early season (ripens about July 26 at Vineland). Plants are vigorous, very productive. The clusters are medium in length with berries large, firm, even ripening, very good for mechanical harvesting.

Baldwin Late season. This cultivar has been the most productive in Horticultural Research Institute trials. The clusters are short with berries medium-large, firm to very firm, good for mechanical harvesting.

Consort Early mid-season and only fair in productivity. The clusters are medium in length with berries medium-small, medium in firmness, poor to fair for mechanical harvesting. Berries shake off with some tearing at the stem end and quite a few berries have stems attached. Plants are susceptible to leaf spot and extremely susceptible to mildew, but resistant to white pine blister rust. Of value where resistance to rust is required.

New mildew resistant varieties such as *Ben Alder, Ben Lomond, Ben Tirren, Ben Sarek* and *Blackdown* are available in Europe. These are being tested in Ontario.

Red Currants

Red Lake Late mid-season (ripens in mid-July at Vineland). Plants are vigorous, very productive. The clusters are medium long and easy to pick. Berries are medium large, light red and attractive. This is the highest yielding cultivar in Vineland trials.

Cascade Early season. Ripens several days earlier than Red Lake. Plants are vigorous, have a slightly sprawling type of growth with medium productivity. The clusters are medium short to medium in length with berries large, medium dark red, attractive. Berries are susceptible to sunscald and must be picked promptly when mature.

Gooseberries - European or English Type

Varieties of this type have large berries but are susceptible to mildew and may not be hardy enough for colder regions of Ontario.

Clark Early (ripens in late July at Vineland). The most productive of European gooseberry types tested at Vineland. The berries are very large, red when ripe and fairly easy to harvest by hand or machine. Plants are spiny, short, moderately vigorous, fairly dense with many branches close to the ground. Require careful pruning to be able to place a collection frame under branches for mechanical harvesting. Propagated by layering.

Fredonia Early mid-season. Ripens several days after Clark. Medium in productivity. Berries are large, red when ripe, somewhat difficult to pick but can be shaken off by machine. Plants are spiny, slightly short, fair in vigor with a somewhat upright and fairly open type of growth. Propagated by layering.

Gooseberries - American Type

Captivator Ripens slightly after Clark. Plants are tall, vigorous, almost spineless, fairly resistant to mildew, only moderate in productivity. Berries are medium-small, dull red when ripe, good quality and easy to harvest by hand or machine. Plants have fairly open and upright type of growth. Propagated by hardwood cuttings.

PROPAGATION

Currants and American-type gooseberry varieties can be propagated from cuttings. Take cuttings in late fall from healthy wood produced that summer. Make cuttings 15 to 20 cm (6 to 8 inches) long with the bottom cut just below a bud, and the top cut about 10 mm (1/2 inch) above a bud. That fall, set cuttings 15 cm (6 inches) apart in well-drained soil in a nursery area. Plant them deep enough so that one or two buds extend out of the soil and cover them with straw. In the spring, the straw can be removed or left as mulch around the cuttings. Cuttings can also be taken in early spring before buds leaf out. Store the cuttings in a plastic bag in a refrigerator and plant them out in the nursery row as soon as possible. After a season's growth, plants grown from cuttings can be planted in their permanent place.

European-type gooseberries do not grow well from cuttings as described above. Instead, European-types can be propagated by layering in fall or spring. Bend down

branches, still attached to the plants, and partly cover them with soil. Use pegs to hold down the branches. Roots will form along the branches where they contact the soil. After a season's growth, the branches should have rooted well enough for digging. Often several plants can be obtained from one branch.

CONTROL OF DISEASES AND INSECTS

Common disease and insect pests are described below. For controls requiring chemicals, home gardeners should refer to OMAF Publication 64, *Insect and Disease Control in the Home Garden*. Commercial growers should consult OMAF Publication 360, *Fruit Production Recommendations* and Horticultural Crop Advisors of the Ontario Ministry of Agriculture and Food for additional information.

Always follow manufacturers' instructions for the application of pesticides. They are found on the container label. Apply no more than the amounts specified and at the times indicated. Be certain not to apply pesticides closer to the picking date than specified on the label.

DISEASES

Powdery Mildew Black currants and European types of gooseberries are especially susceptible. In early summer, a white powdery fungus growth appears on young leaves and tips of branches and new shoots. The fungus may spread over much of the bush and often occurs on gooseberry fruits. It seldom occurs on the berries of currants. Later, the white powdery growth becomes brown, and forms a felt-like coating over affected parts. Shoot growth is often stunted, tips may be killed, and gooseberry fruits may also be stunted. The fungus is spread by spores. Warm, humid conditions favor its development. Cut off and destroy diseased tips of shoots and branches when pruning in the winter or early spring. Provide a site with good air circulation. Control can also be obtained with fungicides.

Anthracnose (Leaf Spot) This is a serious disease of black currants and can also cause severe injury to red currants and gooseberries. Many small, brown spots occur on leaves from mid-summer to late fall. Badly infected leaves turn yellow and drop. The main damage is the defoliation which may occur as early as the end of July. Early defoliation reduces growth and causes loss of crop the following year. Spots can also occur on young shoots, leaf petioles, fruit stems and berries. The fungus lives over winter mainly in fallen leaves. Remove and destroy fallen infected leaves either in late fall or in the early spring before buds burst. Apply any new mulch after leaves drop. Fungicides also provide control.

White Pine Blister Rust The fungus causing this disease spends part of its life cycle on currants or gooseberries and part on white pine. The disease can cause serious problems with white (five-needle) pines. Do not plant currants or gooseberries within 300 m (1,000 ft) of susceptible pines. Black currant varieties such as *Ben Nevis* and *Consort* are resistant to rust.

INSECTS

Currant Borer This insect can cause serious injury to currant, and to some extent gooseberries. The adult is a clearwinged moth similar in size and appearance to a thin housefly. Wings have black bands and the body has several narrow yellow bands. The moths appear in mid-June at Vineland and lay eggs in the axils of leaves. The young larvae bore into the pith of the shoot and feed there. The following spring, affected shoots often leaf out late, are sickly and may die. When an injured shoot is cut, a dark hole can be seen where the larva has tunnelled in the pith. The yellowish-white larvae, which are about 12 mm (1/2 inch) long, may also be present. When pruning, remove and destroy branches which have dark, hollow piths. Also, remove and destroy any dying or sickly branches during the growing season. Follow recommended pruning practices and do not let shoots become too old. Keep plants growing vigorously.

Scale Insects Several scale insects attack currants and gooseberries. The small scales (round or like an oyster shell) can easily be seen on dormant wood. These insects suck juices from the tender wood and sometimes occur on the fruit.

Aphids Small greenish-yellow aphids feed on the under surface of young leaves at the tips of shoots. These leaves curl downward and have a blistered appearance. Red currants are particularly susceptible and affected leaves are weakened and may die.

Currant Sawfly The larvae of this insect are smooth, greenish worms with many black spots. The worms are about 20 mm (3/4 inch) long when fully grown. They feed on the edges of leaves and can strip plants of much of their foliage. When signs of feeding are noticed, usually early in the season, kill any worms present.

Currant Fruit Fly The adult flies emerge about the time currants are in bloom. The females lay eggs in developing berries. The eggs hatch into maggots which feed inside the berries. Affected fruits of currants and gooseberries ripen prematurely and many drop to the ground before the normal harvest time. A small white maggot will be found in each fallen berry. The insect leaves the berry and spends the winter in the soil.

PREMATURE FRUIT DROP

Black currants frequently suffer from premature fruit drop several weeks after bloom. In Europe, this phenomenon is called "run-off" and is thought to be caused by lack of seed set in the fruit.

Run-off is a complex problem with a number of causes, including susceptible varieties, self-incompatibility, lack of pollination (too few pollinators or poor pollinating conditions), soil fertility levels, virus, currant fruit fly, drought, excessive moisture, frost or varietal intolerance of cold above 0°C temperatures.

Research at the Horticultural Research Institute found that the variety Magnus can lose 60% of its fruit if the over-wintering buds are subjected to 2°C for two days when the fruit buds are at the grape stage, the period when the fruit buds are just beginning to expand (usually one or two weeks before flowering).

Many home gardeners have problems with premature fruit drop and in most cases, the variety that they are growing is susceptible to cold, above 0°C temperatures before bloom. Two varieties, Magnus and Willoughby, are particularly prone to this phenomenon. These varieties have been in widespread sale through nursery catalogues.

Growers should avoid planting these varieties. Non-fruiting, established Magnus or Willoughby bushes should be replaced by a known variety. The variety Topsy is recommended, since it has been shown to be tolerant to "run-off".

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